Reports

Council on Recycling
Task Force on Recycling Computers and Other Electronics

DATE: October 10, 2002 FILE REF:

TO: Council on Recycling

FROM: Dan Fields, DNR

SUBJECT: Task Force on Recycling Computers and Other Electronics

The Council on Recycling's Task Force on the Recycling of Computers and Other Electronics (TF) is a loosely knit group with an e-mail list of 63. The TF met 12 times over a 19-month period. The TF also created committees that met as needed. Overall, more than a dozen committee meetings also took place. Full TF meeting attendance varied greatly with over 30 people at some meetings and as few as 11 at others. While TF members represented a variety of interest and viewpoints, there was no attempt to create a "balanced" group with equal numbers of representatives from each sector. Instead, members self-selected due to their interest in the subject matter.

The following document is a product of the TF deliberations. As with most such documents, there are significant areas of disagreement between the committee members. The greatest area of disagreement is in funding. Members agreed that a funding system is necessary but the TF was unable to reach consensus on a single funding mechanism. Therefore there are three options included in the report. Each option has possible variations. Members did agree that a ban on the disposal of electronics either in landfills or by incineration should be enacted. Members also agreed that the ban should be in place after a reasonable phase-in period to allow for infrastructure development and education and that there not be exemptions to the law. Members also want to set standards for certifying proper end-of-life disposal and to develop a reporting system for compliance. Members also agreed that state procurement standards need to be developed and that the state should investigate using EPA grants for appropriate studies.

I will continue to accept comments on the TF report and will send any comments to the Council as an addendum.

I hope this report is useful to you as you deliberate on this very important policy issue.

Wisconsin Council on Recycling'
Task Force Report
On
Recycling
Computers and Other Electronics

The Computer and Other Electronics Recycling Task Force (TF) was created by the Council on Recycling to determine if a problem existed in recycling electronics at the household level. The TF was charged with developing recommendations for the Council to act upon if the TF determined that a problem existed. Dan Fields, DNR, served as the TF Chair.

A general announcement went out inviting people to join the TF. Members self-selected to join. The TF consisted of an e-mail list of 63 people representing state government, local government, business, industry, trade groups and environmental organizations. The TF was not scientifically selected for balance. In particular, the TF was underrepresented in the manufacturing area. The TF met 12 times over a nineteen-month period. The TF also created several committees that met throughout the process.

Since there are a vast number of electronic products in consumers' hands, the TF decided it had to limit the scope of its' efforts. The TF decided to concentrate on computers, computer peripherals and TV's. These products contain hazardous materials such as: lead, mercury, hexavalent chromium and brominated flame-retardants. TV's and CRT monitors contain four pounds of lead, on average (depending on size and make).[1] The environmental problems associated with these materials are well known.

The TF reviewed work done in other states, particularly Massachusetts, to estimate the number of computer systems and TV's in Wisconsin households. The TF estimates that there are approximately 1.9M computer systems and 5.2M TV's in Wisconsin households. [2] The TF has also determined that the recycling of computer and other electronics at the household level is haphazard and is not capturing a significant amount of material.

The TF found that this issue is receiving attention both nationally and internationally. Legislation of has been introduced in over 20 states to either regulate disposal or to create a funding mechanism for recycling these materials. Many companies have begun take-back programs, typically for a fee, for computers that they sell. Another group, the National Product Stewardship Institute, has been facilitating a national dialogue with local/state governments, electronics manufacturers, retailers, environmentalists and other interested parties to create a national program for electronics recycling. They have been meeting for nearly two years and plan to wrap up their efforts in September. The European Union has developed the Waste Electrical and Electronic Equipment (WEEE) directive. The directive mandates that manufacturers take responsibility for collecting, recycling and properly managing those materials and discontinue the use of certain toxic materials.

Communities do not want these products in their landfills for many reasons. The three reasons cited most frequently were environmental concerns, liability and budgets. Many communities object, on principle, to disposing of these potentially significant amounts of hazardous materials in landfills instead of reusing or recycling them. They also worry about potential liability if the landfill they use ever fails. But the greatest concern seems to be the budgetary problems communities face. If communities practice environmentally sound and long-term fiscally responsible actions by dealing with these materials in an environmentally responsible manner they incur significant short-term costs. Since electronics recyclers have found that there is not enough intrinsic value in most electronics to make money recycling them (especially TV's and CRT's), they charge communities a fee to cover their costs. These charges are in addition to the costs (staff time, publicity, etc.) communities incurred to collect them. Communities object to

[1] "Electronics: A New Opportunity for Waste Prevention, Reuse and Recycling" EPA
[2] Figures extrapolated from "Electronics Reuse and Recycling Infrastructure Development in Massachusetts"

carrying the full burden of paying for disposal of these products. (The Bureau of Correctional Enterprises [BCE] collects computers and computer peripherals from communities around the state. BCE is funded through the recycling fund and does not charge communities. Several TF members expressed their opposition to the BCE program, citing what they see as state subsidized competition to the private sector. BCE representatives said that they work with recyclers to minimize competition and that there is enough material for everyone.) As these communities come under increasing budget pressures, they are looking for ways to cut their costs without negatively affecting the health and welfare of their citizenry.

The TF looked at the infrastructure capacity for recycling these materials. The TF had difficulty securing an accurate picture of the recycling capacity of firms now engaged in recycling these materials and their capacity to ramp up their operations if the amount of material available dramatically increased. However, discussions with members of the TF who are in the recycling business indicated that they would be able to handle a significant increase in volume in a short period of time. Generally speaking, they believe it is the supply, not the processing, that is the limiting factor.

The TF looked at the supply infrastructure. The TF found the supply infrastructure to be a serious problem. Currently there is no statewide method for collecting and recycling electronics. Some communities have one-day, 'Clean Sweep' type, events but most have not provided any support to electronics recycling.

The TF looked at regulatory barriers. The TF found that there is no statutory prohibition to keep individuals from discarding their old electronics with their garbage. There is statutory language to prohibit disposal of waste computers by businesses and institutions. Wisconsin allows companies to store and transport used electronic equipment to a central facility or a recycler without requiring a hazardous waste permit as long as the material is going to be reused/recycled. The Wisconsin DNR allows this under the discretion afforded the department under the Universal Waste Management Standards in ch. NR680, WI Admin.Code.

The TF looked at community support for electronics recycling. The TF found that, as noted above, there is strong support for recycling these materials but communities do not want to bear the full cost burden. Communities question whether their commitment will continue in the future due to the severe budget problems communities are having at this time.

The TF look at the final disposition of electronics. The TF felt strongly about ensuring that the materials were disposed of in an environmentally sound manner. The TF was particularly concerned about exporting our waste to other countries for final disposal. The TF calls for guidelines to ensure that electronics have a paper trail to guarantee proper disposal.

The TF looked at funding mechanisms. Currently there is no systematic funding system to reimburse communities that are recycling electronics. There are a number of different options for funding, including:

The state could impose fees, most likely at the front-end (point-of-sale [POS]), and use those fees to establish a collection, processing and

recycling/refurbishing/disposal network. This is similar to lead-acid batteries and some bottle-bill legislation.

A fee could be collected (either front-end or back-end) and split between the manufacturers and the state with the manufacturers getting the bulk (85-90%) of the funds for processing and the state portion going to education and enforcement.

The state could simply require that manufacturers recover a percentage (say 50% the first year, 75% the second and 90% by the third year) of their products by a date certain. The manufacturers would be responsible for meeting the goals by whatever method they chose. There would be penalties for noncompliance.

A fee would be used to establish a third party organization (TPO) that would be responsible for the collection, processing and recycling/refurbishing/disposal network. The Province of Alberta uses this system for used oil filters. The fee could be either front-end ([POS] or point-of-manufacture/importation [POM]) or back-end (at time of disposal). The POS is called a visible fee since the consumer would see the fee/tax when they bought the product, similar to the sales tax. A POM fee is called an invisible fee since the fee is added on before the consumer buys the product, similar to the federal tax on cigarettes. Note: the TPO was discussed and the manufacturers or the state may decide to create such a system but it is not included in the recommendations.

The TF was unable to achieve a consensus on a financing system but did agree on many other points. The final TF meeting was not well attended and some viewpoints, notably the manufacturers and retailers, were not represented. The following recommendations were sent out to all members of the TF. If I receive any comments I will send them out as an addendum.

Recommendations

The below recommendations would be implemented in addition to a national program. If a national program is implemented, the recommendations could be modified as determined appropriate and necessary by reconvening the existing task force assigned by the Council on Recycling.

Definition: “electronic equipment” means appliances that contain complex circuitry, circuit boards or signal processing, as well as one or more hazardous substances.

First, establish a financing system.
The State should establish a financing system to shift responsibility of collection, recycling, and disposal of electronic equipment from the taxpayer and local governments to the manufacturers and consumers. The system should hold states and municipalities harmless for collection and processing of materials.

The Task Force identified three options for financing.

A) State collects fee at point of sale:

1) Require a fee or tax to be collected by the State for all electronic equipment sold in Wisconsin. The fee or tax will be collected at point of purchase, and deposited in a state-managed Electronics Product Stewardship Fund. This could also be a variable fee, i.e. one fee for, say, CRT’s and a different fee for the CPU. Reimbursement from this Fund will be available to collectors and processors of electronics at a rate to be determined.
2) Collectors and processors will include local government, retailers, and non-profits as well as private companies.
3) Funds may be used to cover the costs of collection, transportation, and processing (reuse destinations included).

4) Funds may also be used for
   - education programs
   - grants to non-profits for refurbishment (including non-profit government programs)
   - governmental administrative and regulatory functions to oversee and supplement the electronics recycling program(s)

OR

B) A fee is collected (front-end or back-end, visible or invisible- the manufacturers decision) with the manufacturers receiving the bulk of the funding (85-90%) for collection/processing, transportation, etc. The rest of the fee (10-15%) would be directed to the state for education and enforcement.

OR

C) The manufacturers are responsible for ensuring that the electronic equipment (or a subset, such as computers, computer peripherals and TV's) is kept out of landfills. This could be a phased in approach with a goal, such as 40% in year one, 70% in year two and 90% of all electronic equipment is collected by the third year of the program. The manufacturers may use any method they prefer as long as the targets are met and the electronic equipment is kept out of Wisconsin landfills and disposed of in an environmentally responsible manner. A state entity would be responsible for monitoring and assessing penalties for non-compliance.

Second, enact a landfill and incineration ban on electronics and establish an EPR framework for covering costs/procedures. There would be no exemptions to this ban. The ban would be phased in to allow for an educational process and infrastructure development. The ban would only take effect after a financing system was in place.

Approach:

A. Enact a state ban on electronics:
   - The initial ban would cover all CRTs
   - The ban would cover 50% of all electronics within 5 years
   - The ban would cover 90% of all electronics within 10 years

B. Establish an Extended Producer Responsibility framework for covering costs and procedures for management of electronic waste and waste minimization
   - Require payment of a fee or tax by consumers to retailers upon purchase, who in turn forward to the State Electronics Product Stewardship Fund
   - Require minimum recycled plastic/glass/other content
   - Require "design for environment" that would phase out hazardous materials. Require that manufacturers either on their own or in coordination implement a plan approved by the State for a convenient and accessible collection system for electronic equipment sold
   - Work with EPA Region V and other Midwest states for a regional approach to EPR
   - Phase out hazardous material
   - Prepare enforcement plan

Third, promulgate rules to set standards and reporting requirements.

Approach

A. Promulgate rules to set recycling and management standards for electronics recyclers and processors and establish a certification program. Standards and regulations shall apply to all

Wisconsin vendors to ensure proper recycling and disposal of used electronics.

a. Define recycling and processing,
b. Set standards based on current laws and regulations, or identify regulatory changes needed,
c. Devise performance measures,
d. Create and enforce guidelines for manufacturers, haulers, handlers and recyclers/processors to verify that electronic equipment will not be exported from the state for recovery or disposal in a manner that poses a significant risk to the public health or environment.
e. Specify enforcement procedures for non-compliance, including citation authority for violations applicable to communities, haulers/handlers and recyclers/processors.
f. Manufacturers provide notice to consumers of their end-of-life options

B. Develop a reporting mechanism
By (set date) each manufacturer or representative organization shall provide information to the DNR pertaining to the amount of products sold in the state, and the amount collected during the previous year. Each manufacturer shall provide information that specifies the amount of the collected material that is reused or recycled and the end-markets for each constituent material

Fourth, Develop State Procurement Guidelines

Approach: work with the Department of Administration to develop guidelines for the procurement or leasing of environmentally preferable electronic equipment.

Require recycled plastic/glass/other content
Require "design for environment"

Fifth, investigate the nature and scope of electronic waste in Wisconsin

In addition to the above recommendations, the task force recommends that the state undertake an investigation to determine the nature and scope of the issue/problem in Wisconsin.
Approach: apply for a grant from the U.S. EPA in FY 2003.

A. volume
   a. How much is in storage?
   b. How much is disposed of annually?
   c. How much is purchased annually through large and small retailers and through internet sales?
   d. Trends in purchasing practices.

B. infrastructure capacity
   a. What is the capacity of the infrastructure now?
   b. What is the capacity of the private sector to grow?
   c. How much is handled through communities/municipal programs, BSI, and what are the costs associated with this program?

C. service
   a. Who is being serviced now?
   b. How convenient is service?
   c. How costly is service?
   d. Would a State Term Recycling Contract be feasible?